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Healthy Urban Watersheds Low Impact Development Strategies to Improve Water Quality

Good morning & thank you for being here today. It is my pleasure to welcome you to this workshop on low impact development strategies to deal with the serious problem of urban storm water and runoff – the water that rushes down our streets and gutters and into our storm channels carrying bacterial and chemical freight to the ocean.

This is a great challenge, but it is also a great opportunity. Through the design of low impact development strategies we can create cost effective solutions to the problem of urban runoff and, at the same time, address many of our shared public policy goals.

We can reduce risks to public health, improve the quality of our ocean waters, greatly increase groundwater recharge, improve air quality, contribute to the local economy by making the beaches safer and cleaner and therefore more desirable for tourists, and enhance the already physically beautiful landscape of Southern California.

Water quality, water quantity, public health, economic, recreational, social benefits can all be realized through design that better integrates the natural landscape with storm water quality and drainage needs.

I know that we haven't been used to thinking this way about storm water & perhaps many of you are saying, 'what is she talking about?' So, if I could just ask how many of you are familiar with Boston and the beautiful parks that circle the city and are famously known as the 'emerald necklace' Probably most of you. But did you also know that Olmstead designed these parks in 1877 as a way to clean up the flood and pollution problems they were having then. The emerald necklace parks successfully solved storm water problems. They've been doing the job ever since and doing it in a way that has brought many hours of pleasure to the citizens of Boston, in addition to vastly improving public health as well as earning well deserved national attention and praise.

Urbanization

The water quality impacts of urbanization and urban storm water are well known. Urbanization causes changes in hydrology and increases pollutant loads which adversely impact water quality and impairs the beneficial uses of receiving waters.

In 1900 the population of LA County was 170,298. By the year 2000 the population in LA County numbered 9.5 million. The 2020 projected population for LA County alone equals 11.6 million.

Increases in population density and the resulting increase in impervious surface area result in changes to stream hydrology including:

- high pollutant concentrations and loads in storm water of heavy metals such as lead, zinc and copper & pesticides such as diazinon;
- increased peak discharges compared to predevelopment levels;
- increased frequency and severity of floods;
- decreased infiltration and diminished groundwater recharge. And yet we know that the Amount of water we send to the ocean as runoff is equal to 50% of the amount of water we import. We have the opportunity to decrease our dependence on imported water through infiltrating storm water and through thoughtful site design.

Impacts of Urban Storm Water

The quality and quantity of storm water and urban runoff is fundamentally important to the health of the environment and the quality of life in Southern California. Polluted storm water runoff is a leading cause of water quality impairment in the Los Angeles Region. Storm water and urban runoff (during both dry and wet weather) are contaminated with harmful chemicals and pathogens, pesticides, fertilizers, animal droppings, trash, food wastes, automotive byproducts, and other toxic substances generated by our urban lifestyle and environment. Water that flows over streets, parking lots, construction sites, and industrial, commercial, residential, and municipal areas carry these untreated pollutants through the storm drain networks directly to the coastal waters, rivers, streams, lakes, estuaries and wetlands.

Water Board Action

As many of you in the audience already now , The LA Regional Water Board is fully committed to implementing policies and enforcing regulations to clean up storm water. Our Board was the first in the State to adopt Standard Urban Storm Water Mitigation Plans (known as SUSMPs) and numerical mitigation criteria for new and redevelopment projects. While we may have been first, to date, six of the other Regional Boards have quickly adopted similar SUSMP regulations.

Since then, we have adopted storm water Total Maximum Daily Load (or TMDL) allocations for trash in storm water, wet weather and dry weather TMDLs for bacteria, other TMDLs will follow. Fortunately, the strategies and approaches we will discuss in today's workshop will meet the water quality standards set by the Regional Board as of today and for many of the TMDL's that are planned.

In addition in 2001, we adopted a third-term municipal storm water permit for Los Angeles County which included requirements for industrial inspection and broader new development/ redevelopment post construction controls to reduce storm water pollution.

Compliance Costs

The question, ‘how much will all this cost’ is a central question for the cities and counties responsible for achieving the water quality standards set by the Board. There have been some very big numbers hurled about and answers about costs have been given in response to standards never required by the Board.

First, as you all know, the voters of California voted, in the last election, for water quality cleanup bonds. As a result, the State, even in this time of budget crisis, has substantial dollars available to local governments for storm water cleanup. Art Baggett, Chair of the State Water Resources Control Board told me, just a few days ago that they were designing the application process for the distribution of Bond monies and we discussed mechanisms to make that process as easy as possible for local governments.

Second, The Regional Board directed staff to create a representative working group to establish generally accepted budget-reporting guidelines. We are looking for standardization to ensure consistency in reporting and to allow reliable comparisons across programs. We rely on costs submitted to us by local governments & often those costs are submitted in ways that make it difficult to compare costs with other cities. What we learn in this working group will allow for a clearer accounting of the involved costs.

Third, and I can not emphasize this too strongly, the LA Regional Board does not require, support nor favor the construction of large storm water treatment plants, which is the most costly approach. We think that building large storm water treatment plants is unnecessary and would be an ill conceived use of tax payer dollars and public lands when so many other, more beneficial and cost effective approaches are easily possible.

At the same time, when we calculate costs we must also calculate the value of the benefits of water quality to our individual physical health, to the health of our environment and to the health of our economy. Let’s not forget that Coastal tourism brings approximately \$2 billion annually to our region alone and is responsible for generating approximately \$52 billion in annual income in the State.

Benefits of Storm Water Management

The implementation of the storm water permit requirements and TMDLs will significantly reduce pollutants in urban storm water and boost our economies. Some of the expected benefits are:

- Reduced Illness from Swimming in Contaminated Water: Epidemiological studies demonstrate that swimmers in water contaminated by storm water runoff have a higher chance of illness due to storm water contamination
- Ground Water Replenishment: Storm water is a potentially significant resource that can be used to recharge ground water basins in the region and reduce our dependence on imported water.
- Increased Tourism: Cleaner beaches and fewer beach closures will increase the number of visitors and increase revenues to coastal and regional businesses.

- Enhanced Recreational and Subsistence Fishing: Pollutants in storm water can cause contamination in sport fish and shell fish and can cause the elimination or decrease the numbers, or size, of sport fish and shell fish in receiving waters.
- Reduced Flood Damage: Storm water runoff controls can be used to mitigate or eliminate the potential for flood damage by addressing problems due to the diversion of runoff, insufficient storage capacity, and reduced channel capacity from sedimentation.
- Enhanced Aesthetic Value: Storm water affects the appearance and quality of our water environment and the desirability and economic viability of working, living, traveling, or owning property or businesses near that water body.

Low Impact Development

New development controls such as the low impact development strategies that you will be discussing in today's workshop represent the safest, surest and most cost-effective ways to reduce storm water pollution. Through good planning and design architects, engineers and planners can most easily and in a cost sensitive manner integrate storm water quality and water quantity considerations creating environmental and aesthetic benefits for all of us.

I know that there are initiatives and proposals throughout the region that employ these strategies to combine storm water and urban runoff clean up with enhanced recreational opportunities. One of these proposals is the Santa Monica Beach Parking Lots Greening Proposal, which you will hear more about later today.

Acknowledgements

In closing you, I would like to thank the City of Santa Monica for organizing this workshop. I would also like to especially recognize Mr. Craig Perkins and Mr. Neal Shapiro from the City of Santa Monica Environmental Programs Division for their work, and for the City's support.

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And a special thank you to all of you for taking your time to be here with us at this valuable workshop.